
SITE BRIEFING SUMMARY

Stauffer Chemical Site

Richmond, Contra Costa County, California

Operating History/Attribution

Stauffer manufactured, formulated, and bulk loaded a variety of agricultural and industrial chemicals from 1906 to 1985. Chemicals manufactured by Stauffer include: sulfuric acid, aluminum sulfate, titanium trichlorate, Vapam, and Devrinol. Stormwater and wastewater have drained to the evaporation ponds and the salt marsh throughout the history of the site. Arsenic, cadmium, copper, lead, mercury, and zinc detected in sediment samples from the adjacent tidal marsh can be attributed to same contaminants found in onsite waste management sources.

HRS Score/Data Sufficiency

The projected HRS score for the Stauffer site in predecisional documents is 59.29, based on the surface water and soil exposure pathways. There appears to be sufficient data (ESI in 1992) to support a release of contaminants from the site.

Pathways of Concern

Surface water is the primary pathway of concern. Contaminants found in sediments pose a potential ecological risk to several federally protected species in the tidal marsh area and a potential human health risk to people who consume the fish. Eleven sensitive species have been documented or would reasonably be expected to exist on or near the Stauffer site, including the California clapper rail, California least tern, California brown pelican, and the salt marsh harvest mouse. Approximately 85 acres of salt marsh wetlands are near the site. The San Francisco Bay Trail, which runs along the former railroad tracks near the southern border of the site, is heavily used for recreational activities.

Contaminants of Concern/Benchmarks

See table (attached).

Lead Agency/Relevant Activities

There is no state lead agency involved in actively investigating or remediating sediment contamination attributable to the Stauffer site. RWQCB has been the lead agency involved in NPDES permitting and compliance issues, LUST investigations and removals, TPCA assessments of sedimentation and evaporation ponds, and a SWAT of the cinder landfill. The site does not have State Superfund status.

PRP Viability

The PRP has addressed ongoing waste management practices, but the PRP has not defined the extent of sediment and groundwater contamination attributable to the site. The site owner/operator(s) Zeneca/ICI Americas have demonstrated past willingness to participate in mitigative remedial work on site; however no activities to date have addressed the remediation of sediments.

Table 1:
Contaminant Concentration and Benchmark Values by Matrix - NOAA & SF Estuary references

Contaminant of Concern	Ground Water/ Drinking Water (µg/L)		Soil (mg/kg)		Sediment (mg/kg)		
	Max Conc.	MCL ¹	Max Conc/ location	PRGs res/ind ²	Max. Conc./ location	NOAA ER-L/ER-M ³	SF Estuary Ambient Conc. <40 %/ 40-100 % fines ⁴
METALS							
Arsenic	280	50	294 S-1/S-6	21/480	1,660 E-10	8.2/70	13.5/15.3
Cadmium		5	15.5 S-2	9/930	14.6 J E-20	1.2/9.6	0.25/0.33
Copper		1,300	1,310 S-2	2,800/70,000	1,930 E-20	34/270	31.7/68.1
Lead		15	678 S-2	400/1,000	563 E-2	46.7/218	20.3/43.2
Mercury		2	30.2 S-2	22/560	10.9 E-1	0.15/0.71	0.25/0.43
Zinc			2,240 J S-2	22,000/100,000	5,490 E-20	150/410	97.8/158
PESTICIDES/PCBS							
	Soil concentrations in mg/kg			Sediment Concentrations in µg/kg			
alpha-Chlordane		2	0.022 S-2	1.6/12	24 E-8	-	0.42/1.1
gamma-Chlordane		2	0.034 S-2	1.6/12	14 E-15	-	0.42/1.1
DDT			1.8 S-2	1.7/13	370 E-2	1.58/46.1	2.8/7
Dieldrin			0.052 S-1	0.028/0.19	37 E-8	-	0.18/0.44

¹ Federal Maximum Contaminant Levels (MCLs) for drinking water

² EPA Region 9 Preliminary Remediation Goals (PRGs): residential/industrial, October 1999.

³ NOAA Screening Guidelines for Inorganics and Organics; Effects range- Low (ER-L)/Effects range-Median (ER-M), 1995.

⁴ Table 3-S.F. Estuary Sediment Ambient Concentrations, May 1998.

Table 2:
Contaminant Concentration and Benchmark Values by Matrix - Background Data

Contaminant of Concern	Ground Water/ Drinking Water ($\mu\text{g/L}$)		Surface Water ($\mu\text{g/L}$)		Soil (mg/kg)		Sediment (mg/kg)	
	Sample	PRG ¹	Sample	FAWQS	Sample	PRG	Sample	BKG ⁴
METALS								
Arsenic	280	0.45		360/190 ²	294	0.38	1,660	17
Cadmium		18		3.7/1.0 ²	15.5	9	14.6	ND
Copper		1,400		17/11 ²	1,310	2800	1,930	106
Lead		0.0037		65/2.5 ²	678	130	563	165
Mercury		3.7		2.1/0.012 ²	30.2	6.5	10.9	1.3
PESTICIDES/PCBS								
alpha-Chlordane		0.052		2.4/0.0043 ²	0.022	0.34	0.024	0.002
gamma-Chlordane		0.052		2.4/0.0043 ²	0.034	0.34	0.014	0.004
DDD		0.28		0.00083 ³	0.17	1.9	0.180	0.005
DDE		0.2		0.00059 ³	0.41	1.3	0.120	0.006
DDT		0.2		1.1/0.001 ²	1.8	1.3	0.370	0.002
Dieldrin		0.0042		2.5/0.0019 ²	0.052	0.028	0.037	0.002
Endrin		11		0.18/0.0023 ²	0.007	20	0.019	ND
alpha-HCH (BHC)		0.011		0.0039 ³	0.15	0.071	0.3	ND
beta-HCH (BHC)		0.037		0.014 ³	0.035	0.25	0.066	ND
gamma-HCH (Lindane)		0.052		2.0/0.08 ²	0.027	0.34	0.014	0.0008
Aroclor-1248 (PCB)		0.0087		- /0.014 ²	0.64	0.066	0.160	ND
VOLATILE ORGANIC COMPOUNDS								
Benzene	55	0.39	51	1.2 ³		0.63		
Carbon tetrachloride		0.17	3	0.25 ³		0.23		
Chloroform		0.16	47	5.7 ³		0.25		
1,1-Dichloroethene		0.046	1	0.057 ³		0.037		
Methylene chloride		4.3	2,200	4.7 ³		7.8		
PCE		1.1	30	0.8 ³		5.4		
TCE		1.6	40	2.7 ³		3.2		

¹ US EPA Region IX Preliminary Remediation Goals

² Federal Ambient Water Quality Standards - Maximum (Acute) Concentrations/Continuous (Chronic) Concentrations

³ Federal Ambient Water Quality Standards - Human Health (10^{-6} risk for carcinogens) for Consumption of Water and Organisms

⁴ Background Concentration

Casmalia CAD